What is claimed is:

1. A method of generating embroidery data from image data, comprising:

receiving edge contour data based on the image data;

receiving skeletal data based on the edge contour data;

automatically identifying an interrelationship between a first portion of the edge contour data, a second portion of the edge contour data and the skeletal data; and

generating embroidery data based on the interrelationship between the first and second portions of the edge contour data and the skeletal data.

2. A method as defined in claim 1, further comprising generating the skeletal data by generating distance transform information using the edge contour data and associating at least a portion of the distance transform information with the skeletal data.

3. A method as defined in claim 1, wherein automatically identifying the interrelationship between the first and second portions of the edge contour data and the skeletal data includes classifying vertices from

at least one of the edge contour data and the skeletal data.

4. A method as defined in claim 3, wherein classifying the vertices from the at least one of the edge contour data and the skeletal data includes identifying at least one of an end point anchor, a junction point anchor, an end node and a junction node.

5. A method as defined in claim 1, wherein the interrelationship includes at least one of a singularity, a discontinuity and a concavity.

6. A method as defined in claim 1, wherein generating the embroidery data based on the interrelationship between the first and second portions of the edge contour data and the skeletal data includes eliminating at least one singularity associated with the image data.

7. A method as defined in claim 1, wherein generating the embroidery data based on the interrelationship between the first and second portions of the edge contour data and the skeletal data includes generating at least one of a stitch type, a stitch angle and a stitch path.

8. A method as defined in claim 1, wherein generating the embroidery data includes performing path planning to generate the embroidery data.

9. A method as defined in claim 8, wherein performing the path planning enables user specification of a start node.

10. A method as defined in claim 8, wherein performing the path planning includes using a recursive traversal algorithm.

11. A method as defined in claim 1, wherein generating the embroidery data based on the interrelationship between the first and second portions of the edge contour data and the skeletal data includes generating a plurality of stroke normals between consecutive points within the first and second portions of the edge contour data.

12. A method as defined in claim 11, wherein each of the plurality of stroke normals connects between points on opposite contour edges.

13. A method as defined in claim 11, further comprising identifying at least one discontinuity associated with

the plurality of stroke normals and substantially eliminating the at least one discontinuity.

14. A system for generating embroidery data from image data, comprising:

a memory; and

a processor coupled to the memory and programmed to:

receive edge contour data based on the image data;

receive skeletal data based on the edge contour data;

identify an interrelationship between a first portion of the edge contour data, a second portion of the edge contour data and the skeletal data; and

generate embroidery data based on the interrelationship between the first and second portions of the edge contour data and the skeletal data.

15. A system as defined in claim 14, wherein the processor is programmed to generate the skeletal data by generating distance transform information using the edge contour data and associating at least a portion of the distance transform information with the skeletal data.

16. A system as defined in claim 14, wherein the processor is programmed to identify the interrelationship between the first and second portions of the edge contour data and the skeletal data by classifying vertices from at least one of the edge contour data and the skeletal data.

17. A system as defined in claim 16, wherein the processor is programmed to classify the vertices from the at least one of the edge contour data and the skeletal data by identifying at least one of an end point anchor, a junction point anchor, an end node and a junction node.

18. A system as defined in claim 14, wherein the interrelationship includes at least one of a singularity, a discontinuity and a concavity.

19. A system as defined in claim 14, wherein the processor is programmed to generate the embroidery data based on the interrelationship between the first and second portions of the edge contour data and the skeletal data by eliminating at least one singularity associated with the image data.

20. A system as defined in claim 14, wherein the processor is programmed to generate the embroidery data based on the interrelationship between the first and second portions of the edge contour data and the skeletal data by generating at least one of a stitch type, a stitch angle and a stitch path.

21. A system as defined in claim 14, wherein the processor is programmed to generate the embroidery data by performing path planning to generate the embroidery data.

22. A system as defined in claim 21, wherein performing the path planning enables user specification of a start node.

23. A system as defined in claim 21, wherein performing the path planning includes using a recursive traversal algorithm.

24. A system as defined in claim 14, wherein the processor is programmed to generate the embroidery data based on the interrelationship between the first and second portions of the edge contour data and the skeletal data by generating a plurality of stroke normals between

consecutive points within the first and second portions of the edge contour data.

25. A system as defined in claim 24, wherein each of the plurality of stroke normals connects between points on opposite contour edges.

26. A system as defined in claim 24, wherein the processor is programmed to identify at least one discontinuity associated with the plurality of stroke normals and substantially eliminate the at least one discontinuity.

27. A machine readable medium having instructions stored thereon that, when executed, cause a machine to:

receive edge contour data based on image data;

receive skeletal data based on the edge contour data;

identify an interrelationship between a first portion of the edge contour data, a second portion of the edge contour data and the skeletal data; and

generate embroidery data based on the interrelationship between the first and second portions of the edge contour data and the skeletal data.

28. A machine readable medium as defined in claim 27 having instructions stored thereon that, when executed, cause the machine to generate the skeletal data by generating distance transform information using the edge contour data and associating at least a portion of the distance transform information with the skeletal data.

29. A machine readable medium as defined in claim 27 having instructions stored thereon that, when executed, cause the machine to identify the interrelationship between the first and second portions of the edge contour data and the skeletal data by classifying vertices from at least one of the edge contour data and the skeletal data.

30. A machine readable medium as defined in claim 29 having instructions stored thereon that, when executed, cause the machine to classify the vertices from the at least one of the edge contour data and the skeletal data by identifying at least one of an end point anchor, a junction point anchor, an end node and a junction node.

31. A machine readable medium as defined in claim 27, wherein the interrelationship includes at least one of a singularity, a discontinuity and a concavity.

32. A machine readable medium as defined in claim 27 having instructions stored thereon that, when executed, cause the machine to generate the embroidery data based on the interrelationship between the first and second portions of the edge contour data and the skeletal data by eliminating at least one singularity associated with the image data.

33. A machine readable medium as defined in claim 27 having instructions stored thereon that, when executed, cause the machine to generate the embroidery data based on the interrelationship between the first and second portions of the edge contour data and the skeletal data by generating at least one of a stitch type, a stitch angle and a stitch path.

34. A machine readable medium as defined in claim 27 having instructions stored thereon that, when executed, cause the machine to generate the embroidery data by performing path planning.

35. A machine readable medium as defined in claim 34, wherein the path planning enables user specification of a start node.

36. A machine readable medium as defined in claim 34 having instructions stored thereon that, when executed, cause the machine to perform the path planning by using a recursive traversal algorithm.

37. A machine readable medium as defined in claim 27 having instructions stored thereon that, when executed, cause the machine to generate the embroidery data based on the interrelationship between the first and second portions of the edge contour data and the skeletal data by generating a plurality of stroke normals between consecutive points within the first and second portions of the edge contour data.

38. A machine readable medium as defined in claim 37, wherein each of the plurality of stroke normals connects between points on opposite contour edges.

39. A machine readable medium as defined in claim 37 having instructions stored thereon that, when executed, cause the machine to identify at least one discontinuity associated with the plurality of stroke normals and substantially eliminate the at least one discontinuity.